

Title (en)
BEAMFORMING METHOD AND DEVICE FOR MASSIVE MIMO SYSTEM

Title (de)
STRAHLFORMUNGSVERFAHREN UND -VORRICHTUNG FÜR EIN MASSIVES MIMO-SYSTEM

Title (fr)
PROCÉDÉ ET DISPOSITIF DE FORMATION DE FAISCEAU DESTINÉS À UN SYSTÈME MIMO MASSIF

Publication
EP 3562050 A2 20191030 (EN)

Application
EP 17844623 A 20171218

Priority
• CN 201611194059 A 20161221
• IB 2017001714 W 20171218

Abstract (en)
An object of the present disclosure is to provide a beamforming method for a massive MIMO system. Specifically, S routes of data streams to be transmitted via the antenna array are subjected to horizontal direction baseband beamforming processing, to obtain T routes of data streams; the T routes of data streams are subjected to vertical direction digital beamforming processing to map the T routes of data streams onto a corresponding channel according to a predetermined rule; a data stream on each channel is subjected to analog beamforming processing to map the data stream on each channel onto a corresponding array element of the antenna array for transmission. Compared with the prior art, the present disclosure implements the following advantages: by combining the advantages of RF beamforming with the BB beamforming with limited antennas at the FH, a good flexibility regarding BB algorithm selection and RF beam design is provided, which balances the complexity and performance between BB and RF and implements a massive MIMO in sub-6GHz.

IPC 8 full level
H04B 7/0452 (2017.01); **H04B 7/06** (2006.01); **H04B 7/10** (2017.01)

CPC (source: CN EP US)
H04B 7/0408 (2013.01 - CN); **H04B 7/0413** (2013.01 - CN); **H04B 7/0452** (2013.01 - EP US); **H04B 7/0469** (2013.01 - US);
H04B 7/0617 (2013.01 - CN EP US); **H04B 7/0634** (2013.01 - US); **H04B 7/10** (2013.01 - US); **H04B 7/10** (2013.01 - EP)

Citation (search report)
See references of WO 2018115974A2

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)
BA ME

DOCDB simple family (publication)
EP 3562050 A2 20191030; EP 3562050 B1 20210310; CN 108233994 A 20180629; CN 108233994 B 20210427; US 11616539 B2 20230328;
US 2021135715 A1 20210506; WO 2018115974 A2 20180628; WO 2018115974 A3 20180816

DOCDB simple family (application)
EP 17844623 A 20171218; CN 201611194059 A 20161221; IB 2017001714 W 20171218; US 201716471457 A 20171218